



## DATA ANALYSIS SHEET

Unit: Salinity Patterns & the Water Cycle

Content Standard: Physical Science

Grade Level: Middle to High School

Time Required: Up to two 45-min. periods

### DATA PAIRS CHECKLIST:

AT - SS	ST - SS	EV - SS	PT - SS	EP - SS

**BACKGROUND:** Analyzing monthly environmental data from the North Atlantic Ocean will help you to learn more about how the water cycle affects sea surface salinity (SS). Your challenge is to find the data set that most closely corresponds to sea surface salinity patterns. Data to view include air temperature at the ocean surface (AT), sea surface temperature (ST), evaporation (EV), precipitation (PT), and evaporation minus precipitation (EP).

Prior to your analysis, guess which data type most closely resembles SS patterns (circle one):

AT ST EV PT EP

Explain why you chose this data set:

### KEY QUESTIONS

**AT-SS:** Which type of data map exhibits more monthly variation over the year? Can you guess why?

**ST-SS:** Does the warmest surface water have the highest salinity? Is this surprising? Why or why not?

**EV-SS:** Do the highest evaporation rates occur over waters of the highest salinity? Is this surprising? Why or why not?

**PT-SS:** Do the highest precipitation rates occur over waters of the lowest salinity? Is this surprising? Why or why not? (Bonus: When does the highest precipitation occur over the equator?)

**EP-SS:** What is the environmental significance of the "0" line on the E-P map (i.e., dark line between the yellow and green areas)? (Bonus: How is E-P determined?)

### CONCLUSION

After completing your analysis, indicate which data type most closely resembles SS patterns:

AT ST EV PT EP

Explain why this data set corresponds to SS patterns: